DETAILED ACTION

1. This office action is in responsive to the amendment filed on 2/25/11. As directed by the amendment: Claims 1, 2, and 6 have been amended. Claims 1-13 are presently pending in this application.

Specification Objections

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the word “comprising” in line 1 should be avoided.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites these limitations "the face" in line 1, “the exterior” in line 4, and “the gas” in line 8. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 1, line 5, and claim 12, line 2, the term "may be" is indefinite as to whether air may or may not be drawn from the exterior.

Claim 3, line 2, claim 4, line 2, and claim 12, line 2, recites the limitation “the exterior”. There is insufficient antecedent basis for this limitation in these claims.

Claim 6 recites the limitation “a further one way valve" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation “said inlet passes across the visor” in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 8, the phrase "the opposite side of the main volume" in lines 2-3 is indefinite because it is unclear on how to define which side is the opposite side.

Claims 2, 5, 7, 9-11, and 13 are rejected on the basis of that being dependent to independent claim 1.

Claim Rejections - 35 USC § 103

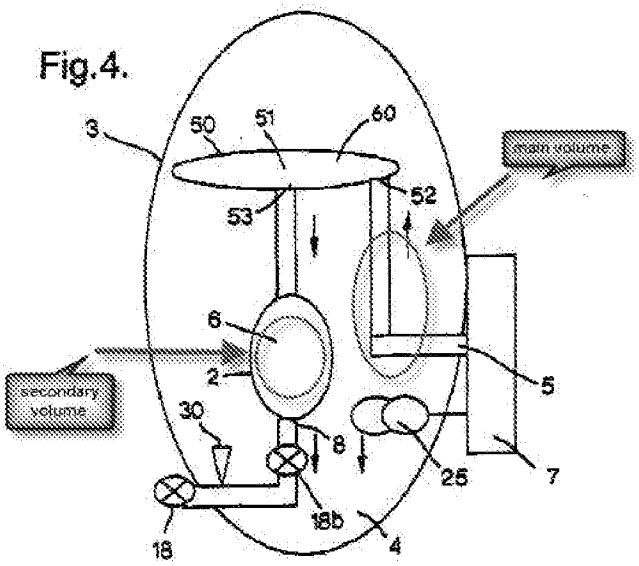
6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 8, 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. (7,013,891) herein referred to as Richardson and in view of Tayebi (4,945,907).

Regarding claim 1, figure 4 of Richardson discloses a respirator that covers a face of the wearer (column 3 lines 48-51) and incorporating a visor (50 - ocular mask). Figure 4 of Richardson shows a primary filter (7 - filter canister). Examiner regards Richardson discloses a primary volume (see figure 4 below) where air can be drawn from the exterior (column 7 lines 25-26) via the primary filter (7). Examiner regards there is a secondary volume positioned to enclose the nose and mouth of the user (2 - oronasal mask) (see figure 4 below).

Richardson has a conduit connecting the visor (50) and the oronasal mask (2) but lacks a secondary filter to provide filter gas passing from the main volume to the secondary volume (see figure 4 below). However, figure 2 of Tayebi teaches a filter (18 - filter liner) can be provided to an oronasal mask (column 7 lines 31-35 and Abstract lines 1-3). Figure 2 of Tayebi shows that the filter liner (18) is provided prior to the air entering the oronasal mask to filter breathed air (Abstract lines 11-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Richardson's conduit with a filter liner as taught by Tayebi, since such a modification would provide purified air before the user inhales the air.

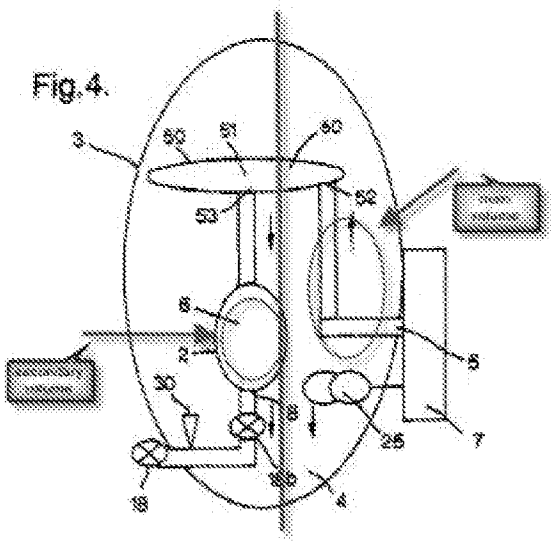


Regarding claim 2, figure 4 of Richardson shows the secondary volume comprises an oronasal mask (2) having a resilient seal along the face of the wearer (column 4 lines 50-54).

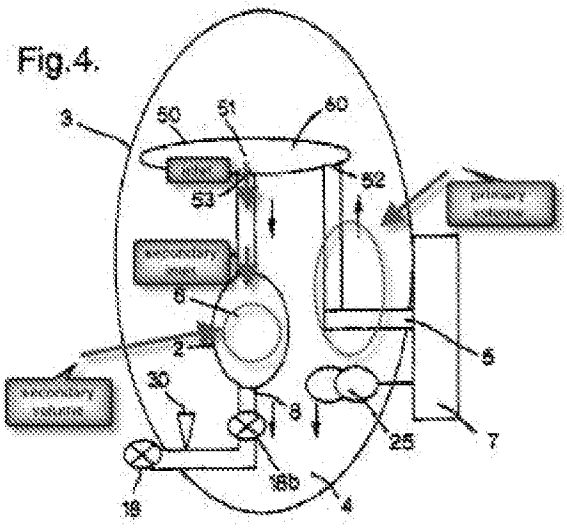
Regarding claim 3, figure 4 of Richardson shows air is drawn into the main volume from the exterior via a primary inlet port (5 - air inlet) and is fitted with the primary filter (7) (Abstract lines 3-5).

Regarding claim 8, figure 4 of Richardson shows an inlet (5) where air is passed from the main volume to the secondary volume. Examiner regards that the secondary volume is located on the opposite side of the main volume to the primary inlet port so that air is passed from the inlet port through the visor (50 – ocular mask). Based on the figure below, examiner regards the left of the center line (shown in the drawing below – figure 4) to be considered one side and the right of the center line (shown in the drawing

below – figure 4) to be considered another side. Therefore, the secondary volume is located on the opposite side of the main volume to the primary inlet port (5).



Regarding claim 9, figure 4 of Richardson shows a conduit for air passing from the main volume to the secondary volume and terminates in the secondary inlet port (examiner regards the secondary inlet port as the port prior to the air entering the oronasal mask 2) through which air flows into the secondary volume (see figure 4 below).



Regarding claim 11, the modified Richardson has the secondary filter (18 – filter liner, see figure 2 of Tayebi) being fitted in the conduit.

Regarding claim 12, figure 4 of Richardson discloses an exhale valve (30 - relief valve) so that air can be expired to the exterior.

Regarding claim 13, figure 4 of Richardson shows the secondary volume comprises a separate contained volume because the secondary volume is within the oronasal mask. The secondary volume has its own seal against the wearer's face separate from that of the main volume. Examiner regards the main volume at the air inlet tube prior to passing through the visor.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. and Tayebi as applied to claims 1-3, 8, 9, and 11-13 above, and further in view of Keifer et al. (7,261,104) herein referred to as Keifer.

Regarding claim 4, the modified Richardson discloses all the features/elements as claimed including an inlet port (5 - air inlet, see figure 4 of Richardson) but lacks a one way valve operable to allow air into the main volume from the exterior. However, figure 1C of Keifer et al. teaches a one way valve (480 - one way check valve) to allow inspired air through passage (460) but prevent expired air from passage (460) (column 6 lines 57-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the modified Richardson's air inlet with a one way valve as taught by Keifer et al. since such a modification would prevent air from escaping the inlet port and keep the air distributed within the mask.

Regarding claim 5, the modified Richardson teaches the one way valve is located downstream of the primary filter. Figure 1C of Keifer shows that the one way valve (480) is located downstream of the filter. Furthermore, Keifer teaches that filtering element connectors are operable to attach filtering canisters or cartridges (column 6 lines 18-20).

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. and Tayebi as applied to claims 1-3, 8, 9, and 11-13 above, and further in view of Bee (7,089,931).

Regarding claim 6, the modified Richardson discloses all the features/elements as claimed except for another one way valve fitted in the air flow from the main volume to the secondary volume. However, figure 1 of Bee teaches a one way valve (11 – non return valve) within the inlet duct (9) to the oronasal mask (column 3 lines 25-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to provide the modified Richardson's mask with a one way valve placed at the inlet of the oronasal mask and within the inlet duct as taught by Bee, since such a modification would prevent air from escaping the inlet port and keep the air distributed within the oronasal mask.

Regarding claim 7**,** the modified Richardson teaches the one way valve (11) (see figure 1 of Bee) is located downstream of the secondary filter.

Allowable Subject Matter

10. Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments, see page 6 lines 7-13 of Applicant Arguments/Remarks, filed on 2/25/11, with respect to claims 1-13 have been fully considered and are persuasive. The rejection of claims 1-13 has been withdrawn.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bauer et al. (5,040,530), Fehlauer (5,323,774), Stern et al. (5,372,130), Schauweker (2,462,005), and Chien (4,549,542) are cited to show other types of respirators that comprises an oronasal mask.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SI LEE whose telephone number is (571)270-5450. The examiner can normally be reached on Monday-Friday 8:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571)272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SI LEE/
Examiner, Art Unit 3771

/Justine R Yu/
Supervisory Patent Examiner, Art Unit 3771